

REMARKS

Initially, in the Office Action the Examiner has objected to claims 2 and 10. Further, the drawings have been objected to under 37 C.F.R. § 1.83(a). Claims 1-6 and 10-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,150,895 (Steigerwald et al.) in view of U.S. Patent No. 6,791,434 (Tsujiguchi).

By the present response, Applicant has amended the specification, Figures 4-7, and claims 2 and 10 to further clarify the invention. Claims 2-6 and 10-14 remain pending in the present application.

Claim Objections:

Claims 2 and 10 have been objected to, the Examiner suggesting some clarifying amendments. Applicant has amended these claims to further clarify the invention and respectfully requests that these objections be withdrawn.

Drawing Objections:

The drawings have been objected to under 37 C.F.R. § 1.83(a). Applicant has amended the drawings to further clarify the invention and respectfully requests that these objections be withdrawn.

35 U.S.C. § 103 Rejections:

Claims 1-6 and 10-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Steigerwald et al. in view of Tsujiguchi. Applicant respectfully traverses these rejections.

Steigerwald et al. discloses a circuit board having a transition region at its perimeter. The transition region provides a deliberate increase in impedance between the voltage and ground plane from the interior side of the transition region where the board impedance is approximately that of the board impedance at an interior region of the circuit board to the edge side of the transition region where the impedance level approximates or is slightly less than that of surrounding air. The voltage plane in the transition region has a geometric configuration that provides a decrease in plane material (such as a hole, stripe, or triangle pattern) from the interior side to the edge side of the transition region. With other examples, the distance between the voltage

and ground plane increases from the interior side to the edge side of the transition region.

Tsujiguchi discloses a flat group-delay low-pass filter that includes a series element connected between an input terminal and an output terminal, and a shunt element with one end thereof grounded. Conductors define the series element, a parallel circuit including a capacitor and a series circuit including a resistor and a capacitor defines the shunt element. The flat group-delay low-pass filter thus eliminates the need for inserting a fixed attenuator to control the effect of reflections due to impedance mismatching between the filter and other components. The resulting flat group-delay low-pass filter and an optical signal receiver including the filter have very low manufacturing costs and component costs.

Regarding claims 2 and 10, Applicant submits that none of the cited references, taken alone or in any proper combination, disclose suggest or render obvious the limitations in the combination of each of these claims of, *inter alia*, attenuating scattering electro-magnetic waves present on metalized areas within a mobile phone that includes placing discrete components near an edge of the metalized areas, the discrete components obstructing a current path of scattering electro-magnetic waves present on the metalized areas such that electric current due to the scattering electro-magnetic waves present on the metalized areas encounters higher impedances as the scattering electro-magnetic waves flow through the discrete components near the edge of the metalized areas, the higher impedances attenuating the scattering electro-magnetic waves emitted from the edge of the metalized areas. The Examiner asserts that Steigerwald et al. discloses attenuating scattering electro-magnetic waves present on metalized areas within a mobile phone caused by components within the mobile phone, in Figure 5 and column 6, lines 33-60. However, these portions merely disclose, as the Examiner states, that currents generated by circuit board components propagate along the voltage planes towards the transition region and as RF current enters the transition region and approaches the edge side of the transition region, the geometric pattern provides a deliberate increase in the impedance between the power planes, which corresponds to providing an RF voltage drop to forming TEM waves. This is not attenuating scattering electro-magnetic waves present on metalized areas within a

mobile phone caused by components within the mobile phone, as recited in the claims of the present application. Steigerwald does not disclose or suggest a mobile phone or electro-magnetic waves present on metalized areas within a mobile phone. Steigerwald merely relates to a circuit board voltage plane where a deliberate increase in the impedance between the power planes provides a RF voltage drop to forming TEM waves.

Further, the Examiner's statements regarding Steigerwald's disclosure of attenuating high frequency emissions in column 6, lines 44-47, and that "poles" of the low-pass frequency function can be adjusted by manipulating the inductance values of the transition region, in column 6, line 55-60, are not related to the limitations in the claims of the present application.

The Examiner admits that Steigerwald does not disclose or suggest a transition region being modified by placing discrete components near an edge of the metalized areas, but asserts that Tsujiguchi discloses these limitations in Figures 21 and 22 and column 1, lines 52-67. However, these portions merely disclose the structure and equivalent circuit diagram of a conventional flat group-delay low-pass filter and that to improve reflective characteristics, a correction circuit which includes a series circuit having a capacitor and a parallel circuit having an inductor and a resistor, and is used as a shunt element for a Bessel low-pass filter. This is not placing discrete components near an edge of metalized areas, the discrete components obstructing a current path of scattering electro-magnetic waves present on the metalized areas such that electric current due to the scattering electro-magnetic waves present on the metalized areas encounters higher impedances as the scattering electro-magnetic waves flow through the discrete components near the edge of the metalized areas. Tsujiguchi merely relates to a flat group-delay low-pass filter. Tsujiguchi does not disclose or suggest discrete components being placed near an edge of metalized areas. Moreover, Tsujiguchi does not disclose or suggest scattering electro-magnetic waves present on the metalized areas encountering higher impedances as the scattering electro-magnetic waves flow through the discrete components near the edge of the metalized areas, as recited in the claims of the present application. The components that make up the low-pass filter in Tsujiguchi are not mounted or placed near an edge of metalized areas.

Further, none of the cited references disclose or suggest the higher impedances attenuating the scattering electro-magnetic waves emitted from the edge of the metalized areas. Further, Applicant submits one of ordinary skill in the art would have no motivation to combine Steigerwald, which relates to circuit board voltage plane impedance matching, with Tsujiguchi, which relates to a flat group-delay low-pass filter.

Regarding claims 3-6 and 11-14, Applicants submit that these claims are dependent on one of independent claims 2 and 10 and, therefore, are patentable at least for the same reasons noted previously regarding these independent claims.

Accordingly, Applicants submit that none of the cited references, taken alone or in any proper combination, disclose suggest or render obvious the limitations in the combination of each of claims 2-6 and 10-14 of the present application. Applicant respectfully requests that these rejections be withdrawn and that these claims be allowed.

Conclusion


In view of the foregoing amendments and remarks, Applicant submits that claims 2-6 and 10-14 are now in condition for allowance. Accordingly, early allowance of such claims is respectfully requested. If the Examiner has any questions about the present Amendment or anticipates finally rejecting any claim of the present application, a telephone interview is requested.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 13-4365.

Respectfully submitted,

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